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June 27, 2017

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John Byrd, Director
North Carolina State Crime Laboratory
Department of Justice
121 E. Tryon Road
Raleigh, NC 27603

Dear Director Byrd,

This letter is in response to your memorandum dated May 18, 2017 concerning "Request for FSAB Advice Regarding Reinterpretation of Prior Forensic DNA Casework." In that memorandum, you listed seven items (labeled a – g) for the FSAB to take into consideration and to provide our opinion. Below lists your questions and our responses.

- a. Validation of a stochastic threshold: is there sufficient pre-existing data upon which to base the validation of a stochastic threshold for discontinued Identifiler kits and, if not, is it feasible to conduct a new validation study?

The FSAB does not believe there would be enough data from the original validation upon which to base a stochastic threshold. Typically, laboratories run extensive numbers of samples (in the realm of 1,000 or more capillary injections) at differing parameters to determine the stochastic threshold. It is impossible to conduct a new validation study based on laboratory parameters and conditions used in the laboratory several years ago. That environment no longer exists.

- b. New validation on new instrumentation: for any new validation study using Identifiler kits, given that the study would be accomplished using new instrumentation and the previously-validated analytical threshold would have to be re-validated, a new statistical calculation could not even be accomplished without the re-submission of DNA material; in which

case, would it not be more advisable to analyze the re-submitted material using current kits instead of conducting an entirely separate validation just for this purpose?

It is preferable to retest evidentiary samples using current instruments, reagents and protocols. Current instrumentation and kits will provide a fully validated system that is compatible with national standards and will provide enhanced sensitivity versus older kits and instruments.

- c. Competency testing and proficiency testing: how to best implement the June 6, 2016 “SWGDM Clarification on the Reinterpretation of Data Typed with Legacy Amplification Test Kits,” and what guides technical leader discretion as to the soundness of these actions?

Although it is possible to apply the clarification provided by SWGDAM (the best scientific method), giving more opportunity to exclude the individual, would be, as indicated in the above FSAB response, to retest any remaining sample utilizing the currently validated technology.

- d. Impacts on current forensic DNA operations (overall): multiple validations for future casework are underway or planned for Raleigh Laboratory; validations planned for Western Regional Laboratory in 2017; anticipated increase in casework/CODIS reviews related to untested sexual assault kits; 8 DNA analysts remain in training, with 6 not set for release to casework until December 2017 or later.

The FSAB understands these constraints and believes that any re-validation of old instruments and kits or routine reinterpretations of prior forensic DNA casework would inevitably set current operational plans behind.

- e. Impacts on current forensic DNA case workloads: how to prioritize requests for reinterpretation of prior forensic DNA casework and to manage such re-submissions without impacting efforts toward reduction of current inventory/lead time.

Based on the constraints mentioned above, the FSAB does not recommend routine reinterpretation of prior forensic DNA casework.

- f. Fiscal impact: how to support the additional costs of validations and competency/proficiency testing?

The FSAB understands these constraints and believes that any re-validation of old instruments and kits or routine reinterpretations of prior forensic DNA casework would inevitably affect planned fiscal operations for the laboratory.

- g. Weighing potential for case impact: whether “reinterpreted” statistical calculations is reasonably likely to impact any criminal case proceeding – that is, would new calculations have “a direct and material bearing” upon questions of guilt or innocence within the post-conviction context, or would shifts in statistical weight likely be far more subtle, especially where the positive association was strong in the first place?

Without the foundational validation support, it is not possible to state the impact on the weight of evidence through reinterpretation on individual cases. The FSAB does not recommend reinterpreting prior forensic DNA casework.

Sincerely yours,

A handwritten signature in black ink, appearing to read "T. D. Kupferschmid", written over a light gray rectangular background.

Timothy D. Kupferschmid, Chair